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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SANEI, MONA M	

ART UNIT	PAPER NUMBER
2882	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,517	SHIMONO, TAKASHI	
	Examiner	Art Unit	
	MONA M. SANEI	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-6 are objected to because of the following informalities:

° In claim 1, line 14, "element and the x-ray" should read - -element, the x-ray- -.

° In claim 1, line 15, "element and the focal" should read - -element, and the focal- -.

° In claim 4, line 17, "element and the x-ray" should read - -element, the x-ray- -.

° In claim 4, line 18, "element and the focal" should read - -element, and the focal- -.

° In claim 5, line 4, "enlarg3ement" should be spelled - -enlargement- -.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Malamud (US 6483890).

° Regarding claim 1, Malamud teaches a system comprising:

an x-ray generator (10) having a function of moving a focal position and radiating x-rays toward a subject (14), the x-ray generator being fixed (col. 1, line 66-col. 2, line 6; col. 4, lines 22-39; see figure 2);

a planar x-ray image receiving element (16) configured to receive a plurality of transmission images of the subject formed by the x-rays radiated from the x-ray generator while

the focal position is moved, the planar x-ray image receiving element being fixed (col. 3, lines 17-51; see figure 2); and

an image processing section (64) configured to create a tomographic image by processing the plurality of transmission images of the subject received by the x-ray image receiving element (col. 1, lines 8-15; col. 2, lines 7-12; col. 3, lines 31-51);

wherein the subiect is fixed between the x-ray generator and the planar x-ray image receiving element (see figure 1 and 2), the x-ray generator has a radiation plane (see plane defined by 40 in figure 2) which is parallel to the planar x-ray image receiving element (see figure 2), and the focal position of the x-ray generator is rotatable on a circumference on the radiation plane (col. 4, lines 33-39; 40, figure 2).

° Regarding claims 3 and 6, Malamud teach that the image processing section creates the tomographic image of the subject for each of a plurality of tomographic planes which intersect in prescribed directions and are different from one another (col. 2, lines 48-58; col. 3, lines 51-60; col. 4, lines 62-67).

° Regarding claim 4, Malamud teaches a system comprising:

an x-ray tomography (col. 1, lines 8-15) including;

an x-ray generator (10) having a function of moving a focal position and radiating x-rays toward a subject (14), the x-ray generator being fixed (col. 1, line 66-col. 2, line 6; col. 4, lines 22-39; see figure 2);

a planar x-ray image receiving element (16) configured to receive a plurality of transmission images of the subject formed by the x-rays radiated from the x-ray generator while

the focal position is moved, the planar x-ray image receiving element being fixed (col. 3, lines 17-51; see figure 2); and

an image processing section (64) configured to create a tomographic image by processing the plurality of transmission images of the subject received by the x-ray image receiving element (col. 1, lines 8-15; col. 2, lines 7-12; col. 3, lines 31-51);

wherein the subject is fixed between the x-ray generator and the planar x-ray image receiving element (see figures 1 and 2), the x-ray generator has a radiation plane (see plane defined by 40 in figure 2) which is parallel to the planar x-ray image receiving element (see figure 2), and the focal position of the x-ray generator is rotatable on a circumference on the radiation plane (col. 4, lines 33-39; 40, figure 2); and

a stereoradioscopic image constructing section configured to create a stereoradioscopic image by processing the plurality of tomographic images obtained by the x-ray tomograph (64; col. 2, lines 48-58; col. 3, lines 51-60; col. 4, lines 62-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malamud (US 6483890) as applied to claim 1 above, and further in view of Lambert et al. (US 4105922).

° Regarding claim 2, Malamud teaches a system as recited above. Malamud further teaches that the image processing section accumulates the transmission images of the subject

corresponding to individual focal positions of the x-ray generator to create an accumulated image (col. 1, lines 8-15; col. 2, lines 7-12; col. 3, lines 31-51).

However, Malamud fails to teach that the image processing section extracts pixels having a brightness value of the accumulated image between a prescribed upper limit threshold value and a lower limit threshold value to create a tomographic image.

Lambert et al. teaches an image processing section (20) that extracts pixels having a brightness value of the accumulated image between a prescribed upper limit threshold value and a lower limit threshold value to create a tomographic image (col. 6, lines 11-34).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the image processing section of Malamud to include the feature suggested by Lambert et al. since one would have been motivated to make such a modification provide higher resolutions for signal levels (col. 6, lines 24-34) as implied by Lambert et al.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malamud (US 6483890) as applied to claim 4 above, and further in view of Niwa et al. (JP 2003-024320).

° Regarding claim 5, Malamud teaches a system as recited above. Malamud further teaches that the stereoradioscopic image constructing section combines the plurality of tomographic images to create the stereoradioscopic image (col. 2, lines 48-58; col. 3, lines 51-60; col. 4, lines 62-67).

However, Malamud fails to teach that that the section corrects geometrical enlargement ratios of the images.

Niwa et al. teaches an enlargement ratio correcting means for correcting an enlargement ratio of an x-ray image (see translated abstract).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the stereoradioscopic image constructing section of Malamud to correct the geometrical enlargement ratios of the plurality of tomographic images before combining them to create the stereoradioscopic image as suggested by Niwa et al. since one would have been motivated to make such a modification to provide a more accurate and therefore meaningful stereoradioscopic image.

Response to Arguments

5. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONA M. SANEI whose telephone number is (571)272-8657. The examiner can normally be reached on M-W 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mona M Sanei/
Examiner, Art Unit 2882

/Edward J Glick/
Supervisory Patent Examiner, Art Unit 2882